



REPORT ON PREPARATION OF A BIODIVERSITY PROJECT:

CZECHOSLOVAKIA

SEPTEMBER 5, 1991

Prepared by:

VERNON C. GILBERT  
NATIONAL PARKS - PROTECTED AREAS  
1794 IVY OAK SQUARE  
RESTON, VIRGINIA 22090

WORLD ENVIRONMENT CENTER

419 Park Avenue South, Suite 1800  
New York, NY 10016

December 1991

# **DISCLAIMER**

The opinions expressed herein are the professional opinions of the author and do not represent the official position of the Government of the United States or the World Environment Center.

## **Report on Preparation of a Biodiversity Project- Czechoslovakia**

**To: Ron Greenberg (USAID) and Peter Whitford (World Bank)**

**From: Vernon Gilbert , Date: August 12, 1991**

This report is a result of field work and discussions with officials in Czechoslovakia, 5/27/91- 6/30/91, and discussions with officials in the United States, 7/1/91-8/9/91, regarding preparation of a biodiversity conservation project in Czechoslovakia. The project arises from the Initiative, Ecological Bricks for Our Common House of Europe.

Assistance is recommended for strengthening the Czech and Slovak Environment Ministries, establishment of the proposed European Trust, and conservation and development of the following areas located along the border of Czechoslovakia:

- **Sumava (Bohemian Forest) National Park/Biosphere Reserve**
- **Krkonoše National Park (proposed binational biosphere reserve)**
- **Tatra National Park (proposed binational biosphere reserve)**
- **Eastern Carpathians (Vychodna) proposed trinational park and biosphere reserve)**
- **Palava Biosphere Reserve (part of the proposed Morava-Dyje-Danube Ecological Brick area)**

### **Main Findings:**

- **The Initiative, Ecological Bricks**, is timely and important. There is urgent need, during this crucial time of transition to new economic and social systems in eastern Europe, to demonstrate that conservation of biodiversity and appropriate economic development can be compatible objectives. Development of a network of model programs in these internationally significant areas, representative of some of the major ecosystem types in Europe, can help to achieve this objective. Approximately \$12,000,000 would be needed for the project over the next 4-5 years.

- Czechoslovakia and the neighboring countries, in spite of the serious impacts of industry, mining, urban development, and agriculture on the environment, still contain a significant diversity of natural habitats and plant and animal species. In some areas there are also stable landscapes, modified over long periods by traditional agricultural or pastoral practices, which are of great scientific value for they are reservoirs of genetic materials associated with land uses that have largely been replaced by modern agricultural practices. Such areas may provide clues for ecologically and socially sound development in the future.

- There is need for well-planned, integrated regional approaches to natural resources management and sustainable economic growth but few models exist. Since the areas in Czechoslovakia are very similar to the mountains of the southern Appalachian region in the United States, where a model has been developed, an exchange program is proposed. The floral characteristics of the regions are very similar, as are the management problems such as public use, tourism, conservation of wildlife species, e.g. bear and migratory breeding birds, and the control of air and water pollution.

- The European Trust proposed by the Initiative should be established to foster the development of the Ecological Bricks through activities such as support to host governments for development of the areas, and by fostering communication through public information and environmental education. If the need arises the Trust could negotiate with host governments to manage specific areas, but this should not be the initial or principle aim of the organization.

#### **Remaining issues:**

- Plans for assistance to Czechoslovakia should be coordinated with plans for the adjacent areas in the bordering countries.

- Development of a coordinated strategy for conservation of other threatened and endangered ecosystems in Eastern Europe should be done in cooperation with IUCN, Unesco, and other international organizations involved in ecosystem conservation, especially in regard to implementation of the MAB Action Plan for Biosphere Reserves in Europe.

- Guidelines for the management and operation of the proposed European Trust should be defined and reviewed by appropriate NGO and government officials in countries where the Ecological Bricks areas are to be established.

#### **Next steps:**

- Determine the feasibility of organizing coordinated assistance to the biodiversity project through communications with interested agencies and organizations. For example, U.S. Peace Corps is now designing training programs for volunteers going into parks and wildlife, environmental education, and environmental management work in Czechoslovakia, Hungary and Poland. These volunteers could assist the development of the biodiversity project.

- Organize a planning workshop in Washington, D.C. and a field trip to the southern Appalachians for the Initiative representatives and key Eastern European government officials to discuss plans and assistance strategies for the biodiversity project.

- Prepare plans for assistance to the sites in Hungary and Poland that are adjacent to the areas in Czechoslovakia so that coordinated strategies for integrated management can be developed.

## **CZECHOSLOVAKIA - Preparation of a Biodiversity Project**

**Report, August 12, 1991**

**To: Ron Greenberg (USAID) and Peter Whitford (World Bank)**

**From: Vernon Gilbert**

<b>Contents:</b>	<b>Page</b>
<b>Draft: Initial Executive Project Summary (IEPS) -----</b>	<b>4</b>
<b>Annexes:</b>	
1. List of Places Visited and Persons Met-----	14
2. Description of Sites -----	18
3. Conference- Western Assistance to Central and Eastern Europe-- -----	23
4. Integrated Regional Resources Management- the Southern Appalachian MAB Model -----	24

### **Draft: Initial Executive Project Summary**

#### **Background:**

The proposal arises from the Initiative, "Ecological Bricks for Our Common House of Europe," which is coordinated by World Wildlife Fund-Austria and supported by a consortium of European conservation organizations. The Initiative has identified 24 areas of regional significance to be included in a network of European reserves. The Initiative also proposes that a "European Trust for Natural and Cultural Inheritance" be established to assist countries in protecting and managing these areas, supporting scientific work, promoting the network concept, raising funds and, possibly, if the need arises, managing areas itself. Due to its central location, Prague is proposed as headquarters location for the Trust.

Partly as a result of the WWF Initiative, the World Bank and USAID have reviewed several of the 24 sites for possible assistance, including the Bialowieza Forest in Poland and the Danube Delta in Romania. Given the level of interest in individual areas, it is appropriate to give attention to establishing a network of reserves. Czechoslovakia, which has natural ecosystems representative of some of the major biogeographic regions of Europe along its borders-- areas which contain a large diversity of plant and animal species, has a significant role in developing this network. Some of these areas also contain landscapes which are the result of long-established and stable land uses that have preserved their character and

biological diversity. These areas are reservoirs of genetic materials associated with traditional land use practices that have largely been replaced by modern agriculture. They may provide clues for ecologically and socially sound sustainable development activities in the future.

There is an excellent opportunity now, especially in these relatively undisturbed areas along the former "Iron Curtain", to develop integrated approaches for long-term conservation and sustainable use of natural resources. This is the principle goal of the **Initiative, Ecological Bricks for Our Common House of Europe**.

#### **GEF Activity Objectives:**

The objective of the proposed activity is to assist the Czech and Slovak Republics in the planning and management of internationally significant natural areas, and to develop integrated programs that can serve as models in biodiversity conservation.

#### **GEF Activity Description:**

The project would have three components:

1. Support the establishment of a "European Trust" to promote and assist the development of a network of protected areas in Europe.
2. Strengthen the Czech and Slovak Environmental Ministries to manage protected areas and promote ecologically sound development.
3. Support the planning and development of specific conservation areas in the Czech and Slovak Republics

Priority needs under each category are listed below. (Costs are estimated for a 4-5 year period)

#### **1. Establishment of the Trust----- \$500,000**

The proposed activity would provide some US \$ 500,000 for organizing, establishing, and supporting the Trust during its initial operational phase. This would include support for the Director's salary and basic office costs for three years. This investment would enable the Trust to raise funds through other donors (including NGOs) to support program activities such as the following:

- Assisting in negotiating or facilitating "debt for nature" exchanges.
- Fostering communication regarding the Initiative through public information, education, training, advocacy; and cooperation with other organizations such as the Regional Environment Center, Budapest.
- Strengthening institutions and programs to improve the management of natural resources and foster sustainable economic development through technical assistance, research, appropriate technologies; and developing professional, scientific standards.

- Conducting conferences, workshops and demonstration activities, including co-sponsorship with other organizations

## **2. Strengthening the Ministries: -----\$2,000,000**

The Czech and Slovak Republics are in the process of establishing new laws, regulations, policies and standards for the protection of nature. The small and highly capable staffs of the Environment Ministries (and in the case of the Tatra National Park the Ministry of Forestry and Water Management) are being strengthened to coordinate the management of protected areas.

The principal institutions responsible for the development of conservation sciences, inventory, research and monitoring are the Czechoslovakia Academy of Sciences and the Slovak Academy of Sciences and a substantial amount of work has been carried out in recent years in these areas.

The proposed activity would provide assistance to the following:

- Inventories and strengthening of conservation databases, including review and development of priorities for conservation of other important areas. The Czechoslovakia Man and the Biosphere Committee and Institutes of the Academies of Sciences should assist the Ministries to identify.
  - strategies for improved management of threatened habitats with emphasis on participation of local populations.
  - priorities for research and monitoring.
  - ex situ strategies to conserve species where habitats are likely to be destroyed.
  - means to improve information management.
  - needs for institutional development, education and training.
  - roles of participating ministries, organizations and institutions, including donor organizations; and strategies for cooperation.
- Increasing scientific, technical and environmental education capacity.
  - development of training and education programs.
  - equipment, textbooks, journals, and supplies.
  - translation of publications for international exchange.
- Increasing economic benefits of natural areas and species.
  - analyses of the economic values of natural resources.
  - national strategies for development of ecotourism.
  - planning and development of entrance and user fee systems.
  - application of appropriate technologies and alternative land uses.
- Planning and implementation of ecological restoration in selected areas.



- habitat recovery, reforestation, erosion control measures, and establishment of vegetation buffers (filters), e.g. between farms, development sites and streams
- assistance to NGOs in developing coordinated programs in ecological restoration. (The Brontosaurus Movement has organized effective work programs. These and projects of other NGOs could be developed into a national program similar to the former Civilian Conservation Corps in the U.S. or the more contemporary Youth Conservation Corps.)

### **3. Development of a network of five border areas--\$10,000,000**

(Locations- map, page 11, descriptions- Annex 2)

The following criteria were used in selecting the areas for a biodiversity conservation project:

- a. International significance and degree to which their natural features represent larger biogeographical regions.
- b. Diversity- the number and types of ecosystems, habitats, and species the areas contain.
- c. Ecological and economic importance of the ecosystems and the species they contain and their potential to contribute to a network program of science and management in biodiversity conservation
- d. Threats to the area and its potential effectiveness as a conservation unit - i.e. size, location, and potential for long-term sustainable conservation and utilization of natural resources provided sufficient efforts are made to reduce or eliminate the causes of biodiversity depletion.

**1. Bohemian Forest- the Sumava National Park and Biosphere Reserve.** This newly established national park (70,000 ha) and biosphere reserve (162,000 ha) borders the Bavarian National Park and Biosphere Reserve in Germany and good cooperative activities have been established. Sumava contains a variety of habitats, ranging from high and low elevation bogs to different forest types, some of which are primary forests which may resemble the Bohemian forests of the early 18th century. Prominent animal species such as lynx, wolf and capercaillie have survived in the area.

An excellent management plan for the national park and biosphere reserve has recently been prepared by a WWF interdisciplinary team within the context of a regional development plan. The plan calls for:

- development of management programs for the protection of the area's ecosystems through proper zoning and development of an administrative service.

- development of protection, public use, education, research and monitoring programs with the supporting infrastructure.

- change in forest management and agricultural practices.
- public participation in area management decisions.

## **2. Krkonose (Giant Mountain) National Park**

The Krkonose National Park (54,787 ha including core and buffer zones) is one of the most famous and heavily visited national parks in Europe. (It has recently been proposed as a binational biosphere reserve)

In 1984 IUCN included Krkonose among the most threatened protected areas in the world, primarily because of the damage from air pollution to its forests and other mountain habitats, and to the watersheds that supply fresh water to Prague's reservoirs.

The proposed GEF activity would provide assistance to management of the area to help achieve their goal of becoming a model for sustaining mountainous areas highly impacted by air pollution. The park has good baseline information, research and monitoring programs, e.g. monitoring of bird populations that will enable them to detect changes in air pollution. IUCN, which carried out a study in 1989 of air pollution levels in protected areas in Czechoslovakia, Poland and Hungary and conducted a conference in Krkonose National Park to determine ways to manage areas of high natural value under pollution impact, has proposed Krkonose as a demonstration area for managing and restoring polluted ecosystems. With assistance to the following activities Krkonose could become a model for demonstrating the "Ecological Bricks" objectives:

- expansion of ecological research and monitoring, provision of necessary equipment.
- exchange of scientific information and training with other areas experiencing similar problems, such as the Great Smoky Mountains National Park.
- expansion of the National Park's excellent environmental education and training program.
- development of alternative forest management practices.

## **3. Palava Biosphere Reserve**

Palava Biosphere Reserve is a part of the proposed Morava-Dyje-Danube Ecological Brick area, which contains some of Europe's most important floodplain habitats and a great variety of species. Palava Biosphere Reserve itself contains a range of habitats from floodplain forests, marshes and ox-bow lakes to mixed upland forests and steppe vegetation with rare species.

The proposed activity would use the Palava Biosphere Reserve as a pilot demonstration project for the proposed Morava-Dyje-Danube Ecological Brick area. A overall plan and strategy would also be developed in cooperation with Slovak, Hungarian and Austrian authorities

for conservation of other important habitats in the larger Ecological Brick area. This would include a feasibility study for the "Central Danube" trilateral national park proposed by NGOs in the Danube Charta. The ISTER Danube Project, for example, focuses on preparation of a plan for the international park and emphasizes participation of the various local communities. It also deals with developing appropriate options for environmentally sound industry, agriculture, settlements and infrastructure. Members of the Palava Biosphere Reserve Advisory Committee and the institutions they represent would work with programs such as this in developing an integrated, cooperative strategy for the entire Ecological Brick area..

Activities proposed for the Palava Biosphere Reserve include:

- development of a management plan for conservation and sustainable development, including protection measures, environmental education, training, and ecological research and monitoring.
- development of public use, research and environmental education programs, and the supporting infrastructure.
- restoration of important habitats

#### **4. Tatra National Park (proposed binational biosphere reserve)**

This area bordering Poland is part of the Interior West Carpathians. It contains a variety of habitats including coniferous forests, sub-alpine and alpine associations, peat bogs and snow beds. It was the first national park in the Republic, established in 1949. The nearby Pieniny National Park, administered by Tatra National Park, is an outstanding biological area in the canyon of the Dunajec River which runs along the border between Slovak and Polish mountains. Now a bilateral National Park, it is the oldest bilateral protected area in Europe dating from the early 1020's.

The Slovak Commission for the Environment has ordered the preparation of a territorial plan for the protection and development of the environment for the region of the High Tatras because there are serious problems, especially from recreational development.

The proposed activity would assist the National Park to conserve biodiversity by:

- support for research and monitoring and implementation of measures to control and mitigate the impacts of tourism and recreation on habitats.
- expansion of the National Park's excellent environmental education and training programs.

#### **5. Eastern Carpathians (Vychodna-proposed trinational park and biosphere reserve)**

The proposed trinational park and biosphere reserve (Poland, Czechoslovakia, and Ukraine) may include a total area of more than

100,000 ha. This sparsely populated area contains a well-preserved complex of ecosystems and habitats characteristic of the Eastern Carpathian Mountains. The area is especially significant because of its primary forests of beech and fir, and for the occurrence of mammals such as bear, lynx, and wolf.

The directors of the protected areas in the three countries have already been made significant progress toward unifying their plans for mapping, research and inventory. A meeting of ministers is planned in September.

The proposed activity would assist this project as follows:

- preparation of a management plan for the national park and biosphere reserve. (The Sumava Management Plan would be a good model to follow.)
- development of a regional plan for tourism (with a focus on ecotourism)
- development of inventory, research, monitoring, and environmental education programs and necessary infrastructure.



### **Rationale for GEF Support**

This network of areas in Czechoslovakia is of international importance for the following reasons:

- The areas can make a significant contribution to science and management because information can be extrapolated to other European ecosystems especially in the biogeographic regions the areas represent. The larger reserves could also participate in the global program to monitor climate change and its effects on different ecosystem types, and develop appropriate response strategies for the region.
- Together the areas probably contain more than 3000 species of flowering plants, of which a large number of species are endemic, rare or endangered. The traditional landscapes associated with these areas also preserve some important wild species and historical varieties of fruits such as pears and apples, and they provide suitable habitats for reintroduction of other threatened or endangered varieties.
- The areas have links with the Mediterranean and African regions because of migratory bird species
- Some of the areas are habitats of spectacular and rare species such as the European brown bear, wolf, lynx, chamois, capercaillie and eagle owl. They also provide suitable habitats for the reintroductions of other rare species.
- Czechoslovakia rivers flow into neighboring countries so the ability of these areas to maintain the watersheds and adequate quality and quantity of water supplies is internationally important.

The challenge to conserve this network of areas and to develop new integrated models for conservation and sustainable economic development is unprecedented. Never before have these countries had a better opportunity to develop models which could help to transform social and economic systems so that natural resources and development can be sustained in the long term.

### **Issues:**

- Biodiversity conservation in these areas can be achieved if effective programs and institutional structures are developed to enable the different governments, sectors of government, non-governmental organizations, resource managers, scientists, and local people to work together in developing land uses and economic activities that are compatible with the needs of the biota. Therefore, plans for systematic cooperation must be developed in each of these areas. Inter-ministerial committees or coordinating units should also be established with strong mandates to identify and coordinate the contributions of different sectors

so that integrated conservation and development programs can be developed. The European Trust should support the development of good working models. Such a model has been developed in the Southern Appalachian Mountains of the U.S. Since this region is similar to the mountains in Czechoslovakia, especially in their floral characteristics and in the environmental problems both regions face, an exchange program is recommended. (See Annex 4)

- Regional strategies to conserve other threatened and endangered ecosystems and habitats important to biodiversity conservation in Eastern Europe should be developed. This should be done in close cooperation with IUCN's programs and Unesco MAB's program to develop a network of biosphere reserves in Europe.

- The respective roles of governments and NGOs in carrying out the Initiative Ecological Bricks should be more clearly defined and communicated. As a part of this, guidelines for the management and operation of the proposed Trust should be defined and reviewed by appropriate NGO and government officials in countries where the Ecological Bricks areas are to be established.

#### **4. Next steps:**

- Determine the feasibility for planning coordinated assistance to the biodiversity project through communications with interested agencies and organizations. For example, U.S. Peace Corps is now designing training programs for volunteers going into parks and wildlife, environmental education, and environmental management work in Czechoslovakia, Hungary and Poland. These volunteers could assist the development of the biodiversity project.

- Organize a planning workshop in Washington, D.C. and a field trip to the southern Appalachians for the Initiative representatives and key Eastern European government officials to discuss assistance strategies and develop specific plans for the Initiative.

- Prepare plans for assistance to the sites in Hungary and Poland that are adjacent to the areas in Czechoslovakia so that coordinated strategies for integrated management can be developed. (See also Annex 2)

## **Annex 1. List of Places Visited and Persons Met:**

- 26 May (Sunday)  
Arrived Vienna with Peter Whitford, the World Bank.
- 27 May (Monday)  
Vienna- Alexander Zinke, WWF, Austria.  
Austrian Ministry of Environment- Mssrs. Wolfgang Mattes and Rebering  
Grafenau, Germany- National Park Bayerischer Wald - Michael Held, Hans  
Keiner, and Hanno Langer (Coordinator, Initiative Ecological Bricks)
- 28 May (Tuesday)  
Sumava National Park and Biosphere Reserve, Czech Republic- Dr. Pavel Trpak,  
Deputy Minister of the Environment of the Czech Republic, and staff of the MAB  
Biosphere Reserve, Sumava- Pavel Musiol, Frantisek Krejci, Pavel Hubeny and  
Vaclav Franek.
- 29 May (Wednesday)  
Eisenstein and Schwarzer See (Northwest Bohemia)  
Seiffen- Friedbach, Germany: Presentation of "An Environmental Approach to  
Regional Development" - Markus Hesse, and several presentations about the  
nature park "Oberes Erzgebirge" by park and scientific authorities.
- 30 May (Thursday)  
Visit to border area in Erzgebirge, and to spa Seiffen and border zone in  
Chomutov; to Sachsische Schweiz, Northern Bohemia- Rene Pisinger, Regional  
Deputy for Northern Bohemia; Svatomir Mlcoch, Deputy Minister of the  
Environment of the Czech Republic and Frantisek Urban, Director of the Nature  
Conservation Section, Czech Republic.
- 31 May (Friday)  
Prague, Ministry of the Environment- Minister Ivan Dejmál, Deputy Ministers  
Trpak and Mlcoch, Ludmila Hofmanova, International Relations Department  
Deputy Director; Dr. Havlick and Mr. Florian of the Department of Territorial  
Development.
- Mikulov (town) and Palava Biosphere Reserve- Dr. Antonin Bucek, Institute of  
Geography, Czechoslovak Academy of Sciences; Dr. Kundrate, Regional Planner;  
Tomas Zejda, Mayor of Mikulov; Dr. Josef Chytil, zoologist and other Biosphere  
Reserve specialists.
- 01 June (Saturday)  
Lower Morava floodplains- Dr. Milan Janik, Director of the Nature Protection  
Department of the Slovak Commission for Environment and other experts from the  
Slovak Institute of Landscape Ecology.  
The Danube- Gabčíkova area- Jan Babej, Vice Mayor of Samorin; Mr. Hombaur,  
Chief of Environmental Office, Dunajská-Streda; Ladislav Lukovics, Mayor of  
Bodiky; Klara Ben Kovics, Euro-Chain Citizens Group, Samorin.
- 02 June (Sunday)  
Hungarian Danube floodplains- Dr. Janos Tardy, Deputy Secretary of State and  
President of the National Authority for Nature Conservation, Ministry for  
Environment and Regional Policy; Balint Csaba and Lajtmann Jozsef, Reflex  
Environment Protection Society, and others.
- 03 June (Monday)  
Bratislava, at the Slovak Commission for the Environment- Dr. Ladislav Miklos,  
Deputy Minister; Stefan Mihalic, Advisor to the Minister; Dr. Milan Janik,



Director, Nature Protection Department; and Jana Zacharova, Animal Protection Branch.

Afternoon meeting with Lubica Trubiniova, Slovak Coordinating Committee, Green Party of Slovakia; Dr. Gregor, Slovak Union of Landscape and Nature Protection, and others.

Evening meeting- A. Zinke and H. Langer.

04 June (Tuesday)

To Banska-Stiavnica, Landscape Ecological Center- Deputy Minister Miklos and Dr. Milan Janik. Met Dr. Peter Mudry, Executive Director; and Dr. Jozef Steffek, Research Ecologist.

To Tatranska-Lomnica, Tatra National Park- Dr. Janik; Dr. Josef Turok, Deputy Director; Marian Bekes, Second Deputy Director; Marian Sturcel, Department of Ecological Education; Dr. Peter Fleischer, Scientific Research Institute; and Alena Boncova, Secretary of the Tatra National Park.

05 June (Wednesday)

To Strebske Pleso, Tatra National Park (Potential site for a proposed Winter Olympic Games- year 2002)- Mr. Peter Spitzkopf, Head of the Department of Nature Protection and Alena Boncova (Interpreter)

06 June (Thursday)

Summary meeting- Deputy Director Turok. Then to Pieniny National Park- Vlado Yancura, Chief of the West Tatra National Park section and A. Boncova. At Pieninsky National Park- Mr. Danko, Director.

Afternoon to Humenne- Mr. Jan Terray, Director, Vychodne Karpaty (Eastern Carpathians) Protected Landscape - the Slovak portion of the proposed tri-National Park and Biosphere Reserve Poloniny; and Jana Zacharova, Slovak Commission for the Environment (Interpreter).

07 June (Friday)

Hike to Mt. Kremenec on Poland and Ukraine border- Director J. Terray and A. Boncova.

08 June (Saturday)

To Bardejov- International Conference on Western Assistance to East-Central Europe. Participated in Session on Energy, Environment, Science and Technology at invitation of Dr. L. Miklos, Deputy Minister of the Environment, Slovak Republic. Met Dr. Peter Hardi, Executive Director, Regional Environment Center for Central and Eastern Europe, Budapest; Dr. Janos Yarga, President of ISTER (East European Environmental Research), Budapest; Dr. Gyula Banda, Secretary General, Hungarian Lawyers' Association, Budapest; Mr. Cesare Silvi, ENEA, (Italian Commission for Nuclear and Alternative Energy), Rome; E. Ross Sawtelle, Vice President, Central and Eastern Europe, International Executive Service Corps, Connecticut; Marianne L. Ginsburg, Program Officer, The German Marshall Fund of the United States, Washington, D.C.; Dr. Alena Brunovska, Director, Department of Science, Ministry of Education, Youth and Sports of the Slovak Republic; and Dr. Miklos.

09 June (Sunday)

To Bratislava with Dr. Miklos, and then to Vienna.

10 June (Monday)

Vienna- A. Zinke and H. Langer.

11 June (Tuesday)

Vienna- no meetings

12 June (Wednesday)

To Mikulov, Czechoslovakia, and Palava Biosphere Reserve with H. Langer. Met Mayor of Mikulov, Tomas Zejda.

13 June (Thursday)

- Mikulov - Director of Palava Biosphere Reserve, Mr. Matusek; Dr. Josef Chytil; Dr. Antonin Bucek; Hanns Langer and Mayor T. Zejda.
- 14 June (Friday)  
 Mikulov field trip- Matusek, Chytil, Bucek, Langer, and Dr. Kundrata, Regional Planner.  
 Afternoon to Znojmo and new National Park, Podyji- Dr. Kreiczy, Head-Landscape Protected area and Dr. Martin Skorpik, Entomologist.  
 Evening to Brno- met Dr. Bucek and Dr. Miroslav Kundrata, Institute of Geography, Yveronica
- 15 June (Saturday)  
 To Slavkov u Brno- Dr. and Mrs. Bucek.
- 16 June (Sunday)  
 No meetings.
- 17 June (Monday)  
 Brno- Dr. and Mrs. Bucek, then to Prague.
- 18 June (Tuesday)  
 Prague- Ministry of the Environment, Dr. Pavel Trpak, Deputy Minister.
- 19 June (Wednesday)  
 Prague- Ministry of the Environment, Dr. Frantisek Urban, Director of the Nature Conservation Section.  
 Afternoon- Dr. Jan Jenik, Charles University, Department of Botany, and Chairman of the Czechoslovakia Man and the Biosphere (MAB) Committee.
- 20 June (Thursday)  
 To Yrchlabi and the Krkonose National Park (Giant Mountain National Park)- Mr. Petr Stepanek, Deputy Director and Hana Pasekova, Secretary (Interpreter).
- 21 June (Friday)  
 Field trip- Krkonose National Park- Petr Stepanik; Hana Pasekova; Jaroslav Koldovsky, Head of Mountain Rescue team; Jiri Kulich, Director of the Education Center.  
 Afternoon meeting- Jiri Flousek, Chief of the Zoology Section.
- 22 June (Saturday)  
 Travel to Srni in Sumava National Park.
- 23 June (Sunday)- 24 June (Monday)  
 Srni- tour of village and surrounding area.
- 25 June (Tuesday)  
 Sucice- met Dr. Goetz Schuerholz, WWF Consultant for Biosphere Reserve planning team, Sumava; and members of the Sumava staff.
- 26 June (Wednesday)  
 Srni- Workshop and International Roundtable- Sumava Biosphere Reserve and National Park Management Plan. Contacts: Dr. G. Schuerholz; Mr. S. Cingros, Regional Planner (TERPLAN); Dr. Hans Biebelrider, Director of the National Park Bayerischer Wald, Germany (across the border from Sumava); Dr. Hartmut Jungius, Director of Conservation, WWF-Germany, Dr. Christiane Busch-Lily, Universitat der Bundeswehr Munchen; Dr. Jan Habrovsky, WWF Consultant for Eastern Europe; Dr. Max Finlayson, Head of Wetlands Division, International Waterfowl and Wetlands Research Bureau, U.K.; Dr. Alexander Zinke, WWF-Austria; Dr. Frantisek Urban, Ministry of Environment of the Czech Republic; and members of the Biosphere Reserve staff/planning team- P. Musiol, F. Krejci, P. Hubeny, M. Skolek and Y. Franek.  
 Evening- met Dr. Trpak, and Christiane Busch-Luty.
- 27 June (Thursday)  
 Srni- met Dr. Schuerholz and Biosphere Reserve Planning team; afternoon- J. Habrovsky, H. Jungius; and Dr. Kucera Bohumil, Czech Institute for Nature Conservation.

28 June (Friday)

Srni to Vienna.

29 June (Saturday)

Vienna- summary meeting with A. Zinke and H. Langer, Initiative representatives.

30 June (Sunday)

Vienna

01 July (Monday)

Return to the U.S.

## **Annex 2. Descriptions of Sites**

### **1. Krkonose National Park**

- Administered by: Czech Ministry of Environment
- Size: core areas- 8,432 hectares; buffer and transitions zones- 46,355 hectares
- Geographical location: (Map- page 11) The Krkonose Mountains belong to the Sudeten, a chain of mountains along the Czechoslovak and Polish border. Snezka Mt. (1602 m) is the highest peak. The area contains extensive upland plateaus and peatlands. It is the source of the Elbe River.
- Habitats and species: Alpine tundra with 23 endemic species; Sub-arctic peat bogs; Dwarf pine stands (*Pinus mugo*); Glacial corries; Mountain spruce forest; Mixed beech-spruce forest; Mountain meadows rich in flowering plant species.

6 species of vertebrates are listed as endangered. 39 endemic plant species are threatened. A total of several hundred plant species including vascular plants, mosses and liverworts are considered to be threatened or endangered.

#### **-Key Issues:**

The National Park, one of the most heavily visited national parks in Europe, is damaged by air pollution and impacts of tourists and associated development. (The World Conservation Union included Krkonose among the most threatened Protected Areas in the world in 1984) Measures are now being taken to save this outstanding area and its unique natural and cultural values, so it is especially suitable for inclusion in the Ecological Bricks Initiative.

Scientific research in the Krkonose Mountains dates from the beginning of the 16th century. The Park has a good research, monitoring, and forest management program, and an excellent environmental education and training program. The education program was established by the Ministry of Environment to serve NGOs, schools, government and private company groups, but the facility can only accommodate as many as 42 people.

Approximately 300 people live in the core areas of the biosphere reserve and 26,400 in the buffer and transition zones, so there is a good opportunity for their participation in education programs focusing on sustainable uses of the natural resources of the area.

## **2. Sumava National Park and Biosphere Reserve**

- Administered by: Czech Ministry of Environment
- Size: Sumava National Park- 70,000ha; Biosphere Reserve- 160,000 ha.
- Geographic location (Map- page 11)

"Sumava" is the Czech translation of "Bohemian Forest". Located in the southwest of Bohemia, it is bordered by Germany and Austria, and the neighboring Bavarian Forest.

### **- Habitats and Species**

The highly diversified geomorphology of the area and the different macro- and microclimates have produced a variety of habitats, ranging from extensive high and low elevation bogs to different forest types, some of which are considered primary forests resembling the Bohemian forests of the early 18th century. There are also extensive open meadow types (agricultural lands and pastures) which have a large diversity of plant species.

The forests are valuable habitats for lynx, wolf and capercaillie. Otter, black stork and black grouse that have become extinct in the Bavarian Forest are still found in the Sumava region and offer a source for reintroductions to the Bavarian Forest. About 10 pairs of eagle owl have also survived, and one of the largest populations of Freshwater Pearl Mussels in existence survives in Sumava. This population is the focus of a research and monitoring program.

### **-Key issues:**

Conservation problems in the sparsely populated region ( 6.7 persons/km<sup>2</sup>) include: long-range air pollution and acidification of soils and certain lakes; ecologically unsuitable agricultural and forest management practices; unregulated tourism and hunting. These issues are addressed in the new management plan for the Sumava area.

### 3. Palava Biosphere Reserve

- Administered by: Czech Ministry of Environment
- Size: The Protected Landscape Area designated a Biosphere Reserve in 1986 is 8,017 ha. The Ministry of Environment now plans to double the size of the reserve.
- Geographic Location: (Map- page 11)

The area is situated 35 km south of Brno in southern Moravia and adjoins the Austrian border. It includes among others the town of Mikulov.

- Habitats and Species;

The area contains a variety of habitats ranging from streams and lakes, floodplain forests and other wetland types to mixed oak, hornbeam and other hardwood forests to steppe vegetation, including saline steppe which supports rare halophytes such as *Crypsis aculeata* and *Samolus valerandii*.

The area has a rich insect fauna including species which reach their northern limit here. It is habitat for the eagle owl, rock thrush, grey lag geese, and a number of migratory species. It also has a number of interesting mollusc species, including *Chondrula tridens* and *Helicopsis striata*.

- Key issues:

The once extensive riverine forest has been seriously reduced and replaced by shallow basins which retain water for irrigation. Some pollution of the area has occurred. There is a great need for developing environmentally suitable stream, forest, and agricultural management practices and an environmental education program with the communities in the area. The area has a rich cultural heritage, which along with its natural beauty contributes to its great tourist potential.

The reserve has long been a center for integrated studies of various academic institutions in Brno and is still a field laboratory for ecological studies and education. There is a highly professional group of scientists on the MAB Advisory Committee, which has helped to guide the planning of Palava Biosphere Reserve.

This area has the potential to become a model test area for the larger Danube, Thaya and March area proposed by the Initiative. The Palava group and MAB Advisory Committee should work with Slovak, Austrian and Hungarian authorities to develop a conservation strategy for the larger area.

#### 4. Tatra National Park

- Administered by: Ministry of Forestry, Slovak Republic
- Size: core areas- 44,653 ha; buffer and transition zones- 37,405 ha
- Geographic Location: (Map, page 11)

The territory bordering Poland is part of the Interior West Carpathians. It consists of the Tatri unit which is the largest part, and the Podtatranská Basin.

##### - Habitats and Species:

Habitat types include coniferous forests, sub-alpine areas, alpine areas on granite substrate, alpine areas on limestone, sub-nival areas, peat bogs, and snow beds. The National Park contains more than 1500 flowering plant species and includes habitats for chamois, brown bear, marmot, lynx, and wolf. In all there are several hundred species of plants and animals that are either rare, threatened or endangered. Examples of habitats that are of particular value to conservation include:

- The Tristarska Dolina Valley with a rich and diversified flora containing many endemic and relic species.
- The Nefcerka Valley which is winter refuge for brown bear and deer, and summer habitat for a lynx. Relict and endemic beetles also occur here.
- The Belianska jaskyna Cave is a habitat for a number of species of bats, including *Rhinolophus hipposideros*.
- The Dolina Siedmich Premenov Valley. A variety of forest types and flowering plant species, and some rare insect species are found here.
- The Velická Dolina Valley provides a refuge for chamois. There are colonies of marmots, rare plant species and endemic rodents.
- The Čerevené Vrchy Hills contain more than 250 mountain plant species, some of which are endemic and rare ones.
- The Juranova Dolina Valley is a dolomite-limestone area which includes old stands of fir-beech forests and many rare species.

##### Key issues:

The Tatra National Park has an outstanding research and education program which should be expanded to address the growing problems in the region. There is good cooperation with the Tatra National Park in Poland and a binational biosphere reserve has been proposed. The area may also be declared a World Heritage Site. This is an ideal area for the Initiative Ecological Bricks which could help to address the increasing threats for unsuitable development in the region.

## 5. Eastern Carpathians

- Administered by: Ministry of Environment, Slovak Republic
- Size: 41,000 ha in the Vychodne Karpaty Protected Landscape Area (a tri-national park and biosphere reserve is proposed which may have a total area of more than 400,000 ha.)
- Geographic location: (Map, page 11) The Vychodne Karpaty (Eastern Carpathian) Protected Landscape Area is situated in northeastern Slovakia bordering Poland and the Ukraine.
- Habitats and species:

This sparsely populated area contains a well-preserved complex of ecosystems and habitats characteristic of the the Eastern Carpathians, which are formed on flysch sandstone and slate beds. The area is especially significant because of the extensive stands of primary forest with exceptionally large specimens of fir and beech. (*Abies alba* individuals reach 50 meters height). It also contains alpine meadows, high and low moors and wet meadows which have an interesting variety of species. Forests cover two-thirds of the protected region, the other third being agricultural land.

The vegetation includes Carpathian species such as *Circaea lutetiana*, *Adenostyles alliaria*, *Hacquetia epipactis* and Eastern Carpathian species such as *Ranunculus carpticus*, *Viola dacica*, *Euphorbia sojakii*, *Aposeris foetida*, *Helleborus purpurens*.

One the most significant features of this area, which indicates its near wilderness character, is the occurrence of mammals such as brown bear, lynx, and wolf. It has the highest natural occurrence of wolves which reproduce here. *Bison bonasus* and *Alces alces* migrate into the area regularly from the Biescadsy National Park in Poland.

- Key issues:

This area is exceptionally valuable for conservation of biological diversity because it is large and relatively undisturbed. It also has an interesting history and folk architecture, represented by the preserved old wooden churches, now protected as National Cultural Sites.

Good progress has made toward establishing the tri-lateral national park and biosphere reserve. A meeting of Ministers from the three countries is scheduled in September 1991.

A management plan for the area is needed and development of basic infrastructure including research and education facilities. The areas excellent opportunity for ecotourism must be addressed.



### **Annex 3. Conference on Western Assistance to East-Central Europe**

At the invitation of Dr. Ladislav Miklos, Deputy Minister of the Environment of the Slovak Republic, I participated in the Group Session on Energy, Environment, Science and Technology of the International Conference on Western Assistance to East-Central Europe, held in Bardejov, June 8, 1991. The session was chaired by Dr. Peter Hardi, Executive Director, Regional Environment Center for Central and Eastern Europe, Budapest. Discussions papers were presented by Dr. Janos Varga, President of ISTER, Budapest; Mr. Cesare Silvi, Italian Commission for Nuclear and Alternative Energy, Rome; Dr. Gyula Bandi, Secretary General, Hungarian Lawyers Association, Budapest; and Dr. Ladislav Miklos.

When questions were asked about specific projects for assistance I presented the Initiative Ecological Bricks and suggested that these could provide a focus for integrated programs to achieve the goals of conservation and sustainable economic development-- that the Ecological Bricks could be environmental study areas and demonstration sites for technologies thought to be environmentally suitable. This stimulated a good discussion and possible interest in the program. There should be further contact with the following individuals:

Dr. Varga- regarding a proposal by ISTER for research on the Danube and potential contribution to the Initiative.

Mr. E. Ross Sawtelle, Vice President, Central and Eastern Europe, International Executive Service Corps- regarding possible participation in assisting communities to develop suitable commercial activities in the proposed Ecological Brick areas.

Dr. Peter Hardi- regarding the draft "code of business ethics" that the Budapest Center has developed, especially as it might apply to development in the proposed Ecological Brick areas.

Ms. Marianne L. Ginsburg, Program Officer, The German Marshall Fund of the U.S.- regarding possible assistance to the Initiative.

Dr. Alena Brunovska, Director, Department of Science, Ministry of Education, Youth and Sports of the Slovak Republic- regarding a proposal from the Academy Istropolitana to develop interdisciplinary courses in environmental planning and management. This Institution should be involved in development of the Initiative and in using the areas for environmental study and practical application in education.

These suggestions have been discussed with H. Langer and A. Zinke, who will provide information about the Initiative to the above individuals.

#### **Annex 4. Integrated Regional Resource Management- the Southern Appalachian MAB Model**

The Southern Appalachian Mountain region-- one of the most scenic and biologically diverse areas in the United States-- is much like the mountainous areas of Eastern Europe. The regions are similar floristically and in their need to conserve biodiversity and control air and water pollution.

The need for deliberate cooperation to solve environmental, social and economic problems that cross national, state, and local boundaries-- problems that no individual sector can solve alone-- led to the formation of the **Southern Appalachian Man and the Biosphere (SAMAB)** Program. (See attached article from the 21st Annual Report of The Council on Environmental Quality)

**The SAMAB program is made up of two entities: the SAMAB Cooperative and the SAMAB Foundation.**

The **SAMAB Cooperative**, by interagency agreement, consists of several federal and state agencies and participating organizations. Members currently include the National Park Service, U.S. Forest Service, Fish and Wildlife Service, Department of Energy, Environmental Protection Agency, Economic Development Administration, Tennessee Valley Authority, and the U.S. Geological Survey. The Cooperative has two primary roles:

- (1) to identify the critical issues that require cooperative solutions.
- (2) to bring together the agencies and organizations responsible for natural resources management and economic development to develop cooperative solutions to problems, and promote knowledge and understanding of the region's natural resources; to encourage wise use of resources; and foster and support associated research and training.

The **SAMAB Foundation**, a non-profit entity, provides an avenue for corporations, universities, communities, and other non-governmental organizations to support and participate in the SAMAB program.

These two organizations work together to support projects such as the following:

- **Model Community Programs**-- to demonstrate that tourism development and natural resource protection can be compatible in local communities near the biosphere reserve, and to develop regional tourism strategies.
- **Environmental Education Network**-- A pilot environmental education program about the region is being developed by member agencies.
- **Help for a River Basin**-- an analysis, strategy and plan for the conservation and development of a tributary river basin now experiencing environmental degradation is being developed.

- **Neotropical Migratory Bird Conservation**-- A cooperative program of research and education to conserve migratory breeding birds is being developed by U.S. agencies and Latin American countries.
- **Integrated Regional Resources Management**-- An international training program for resource managers has been developed.
- **Global Climate Change** - A coordinated regional response to global climate change is being planned.
- **Annual SAMAB Conference**-- (See attached announcement)

---

## **SAMAB**

---

The Southern Man and the Biosphere Program was created in 1988 to provide solutions to resource management and economic development problems. This is accomplished through participation and cooperation of seven Federal agencies plus non-governmental organizations. The members of SAMAB promote wise use of the region's renewable resources, increased environmental awareness, environmentally safe economic development, and the sharing of scientific research helpful to the understanding of the region's resources.

---

## **Affiliates**

---

United States Forest Service  
United States Fish and Wildlife Service  
Department of Energy - Oak Ridge National Laboratory  
Economic Development Agency  
Tennessee Valley Authority  
National Park Service  
Environmental Protection Agency  
United States Geological Survey  
The SAMAB Foundation

---

## **Conference Sponsors**

---

Tennessee Valley Authority  
Environmental Affairs - Power Group  
Forest Resources Development - Resource Development Group

---

## **Conference Planning Committee**

---

Cory Berish	FPA
Patricia Brewer	TVA
Hubert Hinote	SAMAB
Cindy Huber	USFS
Michael Huston	ORNL
Susan Medlarz	USFS
Stephen Nodvin	NPS
Jim Ryan	NPS
Peggy Shute	TVA
Betsy Smith	TVA
Charles Van Sickle	USFS

---

## **Accommodations**

---

The conference will be held at the Holiday Inn-Gatlinburg. Rooms can be reserved for \$56/single or double per night. The conference will be held during the busy fall color season and attendees are encouraged to make reservations early. The deadline for room reservations is October 1.

Holiday Inn-Gatlinburg  
P.O. Box 1130  
Gatlinburg, Tennessee 37738  
1-800-435-9202 in Tennessee  
1-800-435-9201 all other states

---

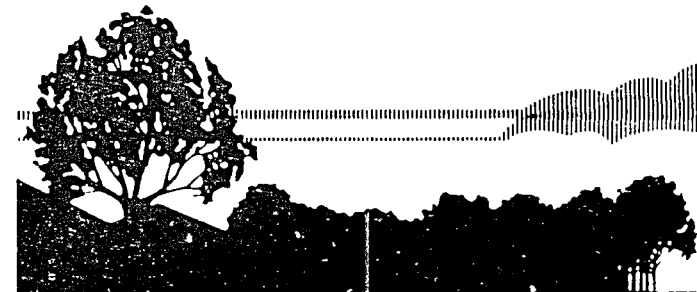
## **Additional Information**

---

Betsy Smith	Patricia Brewer
TVA	TVA
Forestry Building	Lookout Place, 3S 151 F
Norris, TN 37828	Chattanooga, TN 37401
615-632-1509	615-751-5680

**ANNOUNCEMENT AND  
CALL FOR PAPERS**

# **SOUTHERN APPALACHIAN MAN AND THE BIOSPHERE CONFERENCE**



**NOVEMBER 4-5, 1991  
HOLIDAY INN - GATLINBURG  
GATLINBURG, TENNESSEE**

## Conference Purpose

To address policy and management implications of environmental and cultural issues affecting ecosystem sustainability in the southeastern U.S.

To provide a forum to discuss research ideas and strategies for maintenance of ecological integrity.

To encourage interagency and multidisciplinary programs of research, education, and action on environmental issues.

## Agenda

November 4, 1991

Monday Morning

### "Environmental Issues and Controversies"

Invited Speakers

*Global Warning, Water Use Conflicts,  
Forest Management Issues*

Monday Afternoon

- Concurrent Sessions -

### I. Research Directions and Needs

*Critical Findings, Funding Sources*

### II. Integrated Resource Management

*Monitoring and Managing for Biodiversity,  
Environmental Education, Data Compatibility,  
New Perspectives in Forestry*

Monday Evening

Social - Beer and Barbecue  
Twin Creeks Picnic Area

November 5, 1991

Tuesday Morning

- Concurrent Sessions -

### I. Ecological Research

*Integrated Stresses, Sensitivity Analyses,  
Environmental Indicators*

### II. Sustainability Research / Issues

*Landscape Analysis, Carrying Capacity,  
Growth Management Strategies*

Tuesday Afternoon

- Concurrent Sessions -

### I. Ecological Response Strategies

*Species Reintroductions, Corridor Establishment*

### II. Environmental Threats

*Dogwood Anthracnose, Gypsy Moth,  
Zebra Mussels, Aquatic Weeds,  
Non-point Source Pollution*

## Submission of Papers/Posters

Intending authors should submit the title of their paper/poster on the enclosed registration form by **June 21**. A one-page abstract for each paper or poster should be sent to Betsy Smith (see address on back) by **August 2**. These abstracts will be published for distribution at the conference.

## Registration

Registration is \$25 before October 1, \$35 after this date. Student registration is \$5, regardless of date.

## Registration Form

November 4-5, 1991 Second Annual SAMAB Conference Holiday Inn - Gatlinburg, Gatlinburg, TN

Name

(as you wish it to appear on your badge)

Position

Organization

Phone

Address

street

city

state

zip

I wish to register for the conference: ☐ Regular (\$25 prior to October 1; \$35 thereafter) ☐ Student (\$5)

I also want to present a ☐ paper ☐ poster Deadline June 21

Title

Co-authors

# CHRÁNĚNÁ KRAJINNÁ OBLAST ŠUMAVA

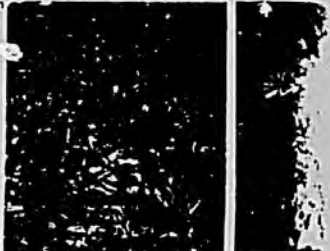
CHKO Šumava byla zřízena v roce 1963 na ploše 630 km<sup>2</sup> a patří k největším chráněným územím nejen Československu, ale i v Evropě.

Šumava byla vyvrážděna v prvoroch. V dalším období došlo vlivem eroze a zvětrávání k zarovnávaní snižování pohoří, až získalo ráz poroviny. Jeho dnešní podoba vznikla při alpinském vrášení v třetihorách, dy byla porovinná kra Šumavy jako celek nesouměrně dvížená a četnými zlomy rozčleněna v jednotlivé dřeš- ti horské skupiny. Ve čtvrtohorách byly vrcholky někte- vých šumavských hor pokryty svahovými ledovci, po nichž zde zůstala kamenná moře, suťové proudy a ze- měna kory, které umožnily vznik šumavským jezerům, nichž nejznámější jsou Černé a Certovo jezero.

CHKO Šumava patří k našim územím, nejméně na- ušeným negativními vlivy civilizace. Je to rozsáhlá ob- ast hlubokých jehličnatých lesů, které odedávna tvo- rily naši přirozenou západní hranici. V CHKO Šumava e řada významných chráněných území, z nichž k nej- známějším patří vedle státní přírodní rezervace (SPR) Černé a Certovo jezero i SPR Boubinský proles, jež e zároveň jednou z nejstarších rezervací v Evropě ůbec, neboť byla zřízena rozhodnutím majitele již i roce 1858. Charakteristickým tvarem šumavské pří- rody jsou rozsáhlá rašeliníště, koncentrovaná na Plá- ních ve střední části pohoří, jež tvoří jádro celého vorstva v pramenné oblasti řek Vltavy a Otavy. Nej- významnější z těchto rašeliníšť jsou chráněna jako rapí. SPR Rokytské slati, SPR Mlynářská slati a SPR lezerní slati. Známým rašeliníštěm nižších poloh Šu- mavy je pak SPR Mrtvý luh, vytvořená v údolní nivě nad soutokem Teplé a Studené Vltavy, s bohatým porostem borovice blatky. V této oblasti se připravují k vyhlášení ještě další chráněná území.

K šumavské přírodě nedílně patří též typická lido- vá architektura rozložitých šumavských chalup, ve Vo- larech se pak začínala několik dřevěných domů alp- ského typu, známých pod označením „volarská archi- tektura“.

CHKO Šumava je pro své přírodní krásy vyhledáva- ou turistickou i rekre- oblastí. Rada rekreačních ůřízení se nachází ze- kolem lipenské vodní ná- lže v jižní části CHKO. Mými sportovními a re- reačními středisky oblasti jsou Stachy, Churáňov,



- 1 2
  - 3 4
  - 5 6
  - 7
- 1 Lipno - pohled od Radslavi
  - 2 SPR Boubinský proles - Kaplický potok
  - 3 Volarská architektura
  - 4 Kumerne moře u Obřího hradu
  - 5 Horec pananský, chráněný druh
  - 6 Kamzárník rakouský, chráněný druh
  - 7 Bobák, celkový pohled

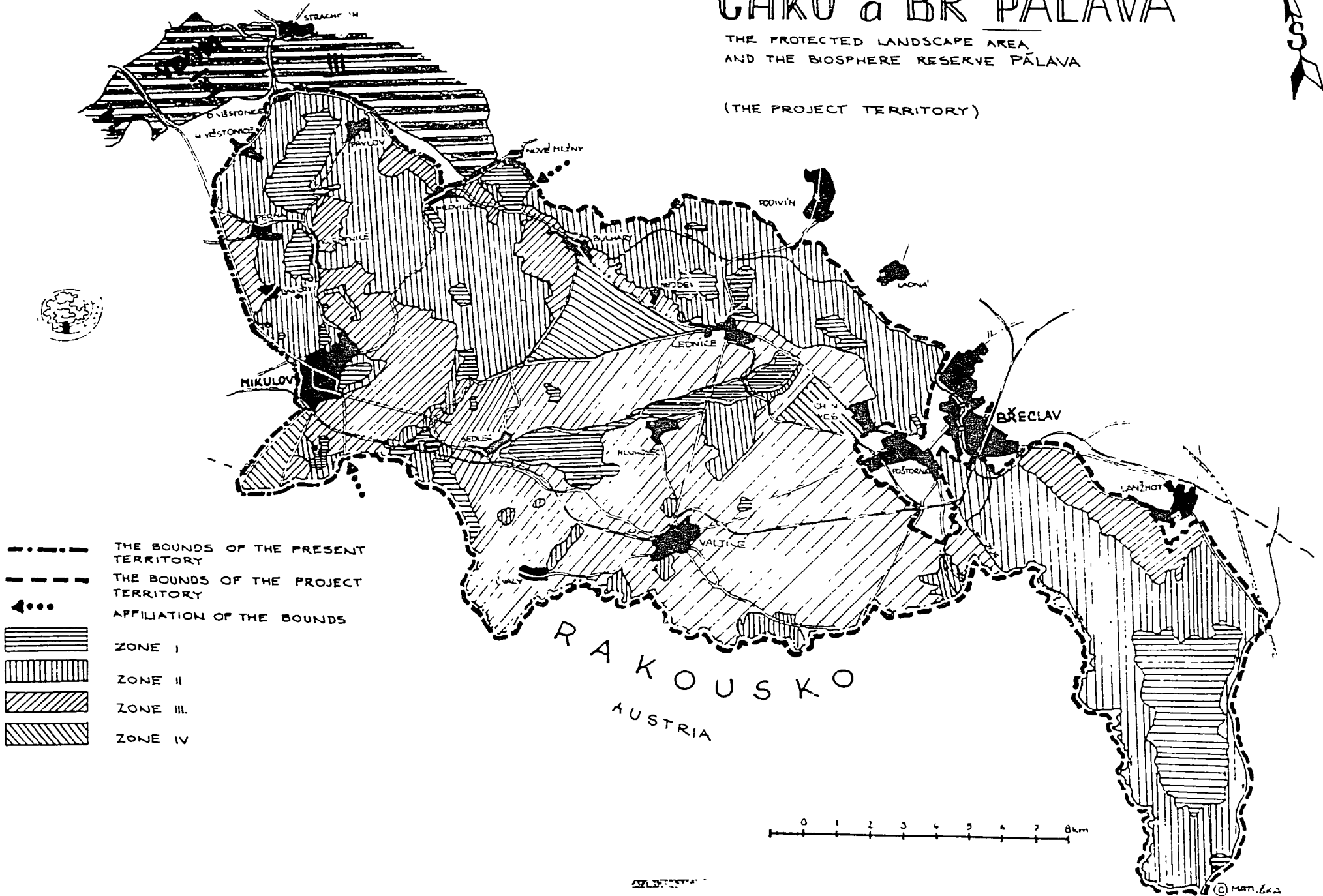
# CHKO a BR PÁLAVA

THE PROTECTED LANDSCAPE AREA  
AND THE BIOSPHERE RESERVE PÁLAVA

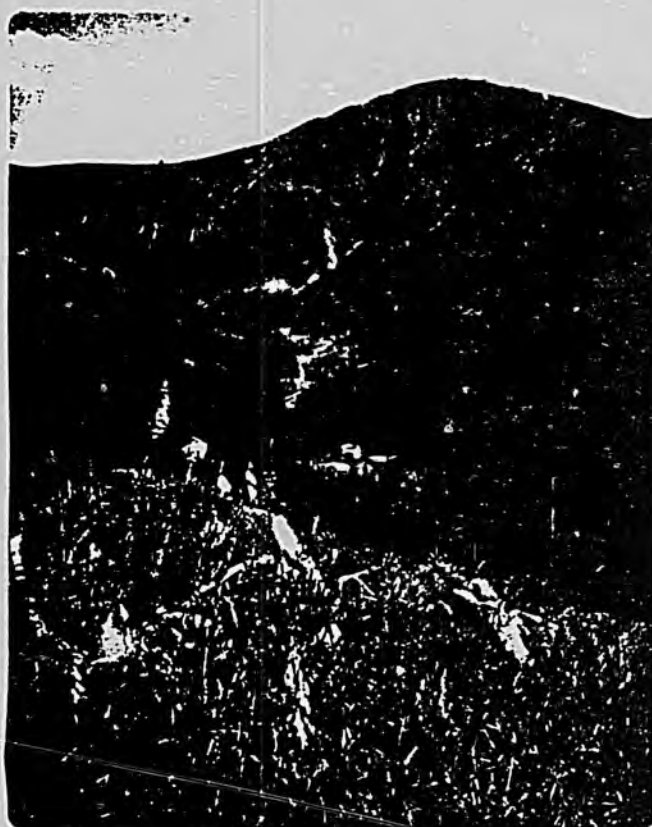
(THE PROJECT TERRITORY)



61







Celkový pohled na Krkonoše — na Sněžku



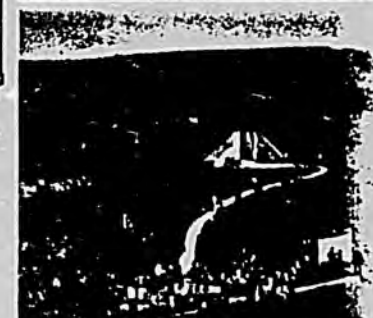
Krkonoše v zimě



- 1 SPR Prameny Labe
- 2 SPR Prameny Úpy
- 3 SPR Rychory
- 4 SPR V Babinách
- 5 SPR Černohorská rašelina
- 6 SPR Botičská sráž
- 7 CHFA Herlíkovicke Stoly
- 8 CHPV Látská smetánka
- 9 CHPV Křivý potok

- NS Černohorská rašelina
- NS Rychory
- NS Prameny Labe
- NS Prameny Úpy
- NS Spindlerův Mlýn — Sv. Petr
- NS Zámecký park ve Vrchlabí
- Kromě toho je značeno 1018 cest s upravenými vyhlídkovými místy a informačními panely

- Informační střediska:  
Vrchlabí, náměstí  
Spindlerův Mlýn  
Hartachov  
Pec pod Sněžkou  
Muzeum ve Vrchlabí (ekologická expozice)



Pramen Labe se zrakem měst

Vystup pionýrů a mládeže na Sněžku

Jestřabník oranžový

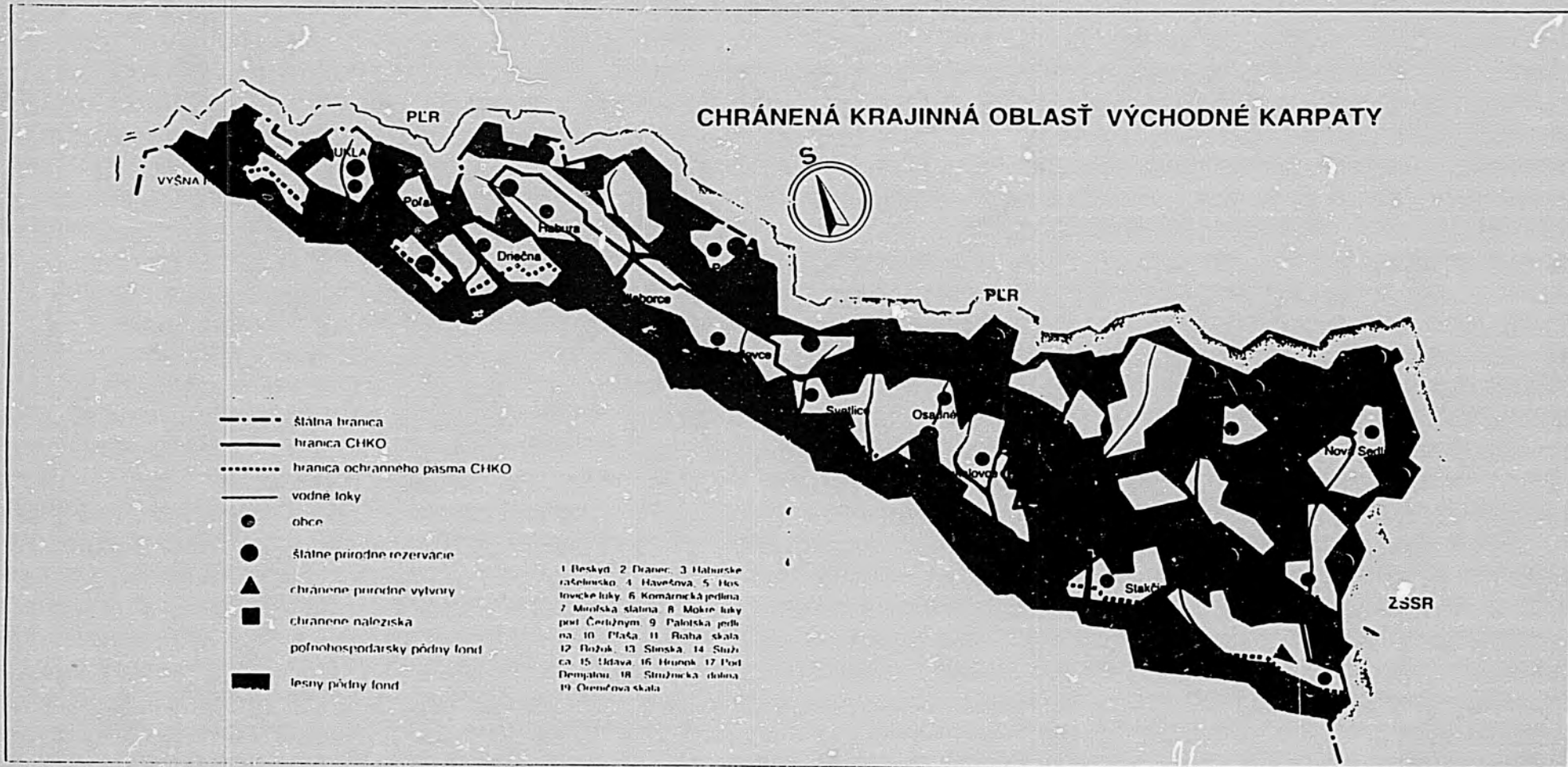
Panel naučné stezky

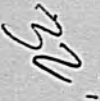
Krkonošský národní park (KRNAP) zaujímá území Krkonoš a Rychor. Byl zřízen vládním nařízením č. 41 ze dne 17. května 1963 a zaujímá plochu 385 km<sup>2</sup>. Je prvním národním parkem vyhlášeným v ČR a druhým národním parkem v ČR. Patří k největším parkům v Evropě. KRNAP navazuje na polské straně na Karkonoski park narodowy, s nímž tvoří nedílný přírodní celek. Krkonoše jsou nejvyšším pohořím v ČR s vrcholem Sněžky (1602 m n. m.). Pásmo horských hřbetů, rozsáhlé lesní porosty, skalnaté srázy a ledovcová údolí, náhorní planiny a rašeliniště, horské louky se vzácnými druhy květeny (mnohé z nich nalezneme jen v Krkonoších) a živočišstva, krajina s typickými geologickými útvary charakterizují tuto oblast s boudami a chalupami, malebně roztroušenými v horské krajině a údolích, v každé roční době stejně krásné s neopakovatelným kouzlem domova a socialistické vlasti. Vodstvo je důležitým přírodním bohatstvím Krkonoš. Prameny tu naše největší řeky: Labe, dále Úpa, Mumlava, Metuje, Pančava, Jizera a další drobné

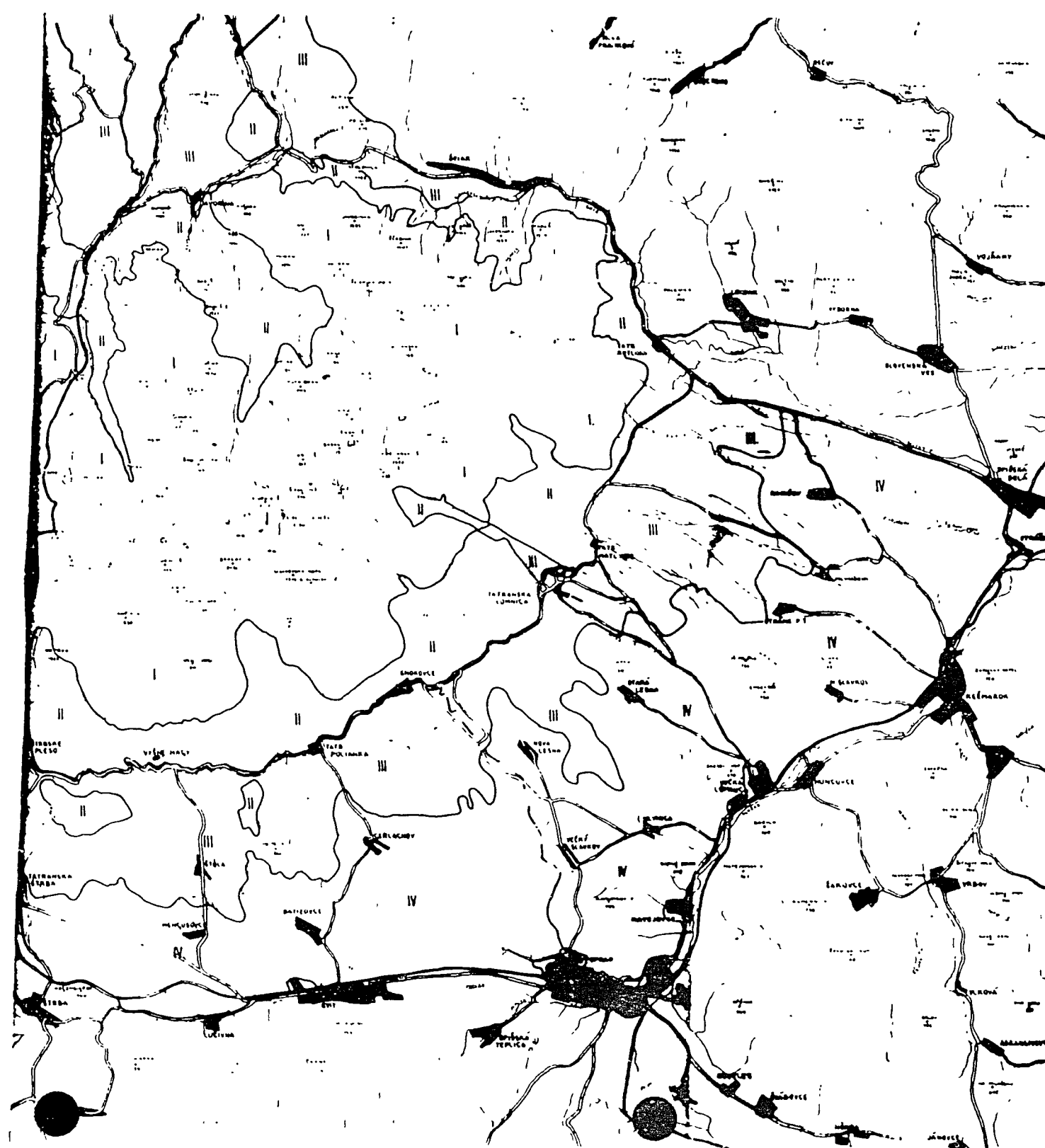
toky. V Krkonoších se vyskytují i četné vodopády. Hřebenová a svahová rašeliniště zadržují značné množství vody. Nejcennější části KRNAP jsou chráněny v chráněných přírodních územích, převážně jako státní přírodní rezervace nebo národní přírodní památky. V povodí národních území jsou například Prameny Labe, Prameny Úpy, Rychory, Černohorská rašelina. V Krkonoších si připomínáme i významné proletářské srážky komunistů Československa a Německa v letech 1922—1932. Na jejich paměť se již od roku 1973 organizují mezinárodní výstupy pionýrů a mládeže na Sněžku v letním období za účasti mládeže ze SSSR, NDR a PLR. Možnost poučení a pochopení zákonitosti přírody poskytují naučné stezky spolu s informačními středisky a muzeem ve Vrchlabí (jedinečná ekologická expozice) na území národního parku. Území KRNAP je bohaté kulturními památkami a lidovou architekturou. Je významnou oblastí pro rekreaci a turistiku i lázeňským místem (Janská Lázně).











- STATE HIGHWAY
- ROAD
- RIVER
- STORMWATER DRAIN
- RAIN DRAIN
- RAILWAY
- TRAIL
- SETTLEMENT
- LAKE AND POND

- I CORE AREA
- II BUFFER ZONE
- III TRANSITION ZONE
- IV SETTLEMENT AGRICULTURAL ZONE

## TATRA EAST SIDE

PROPOSED TATRA BIOSPHERE

7C

SCALE  
1:50,000  
POTENTIAL 1:50,000

WEST SIDE

